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PREPARING FOR THE PIG CROP

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Preparation for the pig crop must begin at least a month before the sire and dam are mated.

The points to which special attention must be given are their suitability as to condition and age, and the time when and frequency with which they are to be bred.

I.—SUITABILITY AS TO CONDITION AND AGE.

It is an established law of breeding that the condition of the sire and dam, at the time of conception, determines to a great extent the condition of the offspring at the time of birth and their dominant characteristics through life.

In Circular No. 1 the writer stated that alertness and strength,—in a word, vigor—must characterize the pig at birth if it is to return a profit to its owner.

VIGOR must therefore be one of the prominent characteristics of the sire and dam at the time of mating, and in order to achieve success in his business, the swine grower must supply to his animals those things or conditions that tend to impart vigor and withhold those which impair it.

The things that tend to impart vigor to animals are the result of ancestry, environment and management.

Ancestry then is an important thing to be considered when preparing for the pig crop. Aside from the question of breed, which will be dealt with in a subsequent letter, the ancestors of the animals to be mated must have been stock that raised large strong litters (not less than seven) which could be brought to a finished condition and to a weight of 200 lbs. in six months. The short, thick-set variety that cease to grow when they have attained a weight of 150 lbs. should be avoided. They almost invariably throw small litters and may have difficulty in farrowing. Likewise

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the extremely long, shallow-bodied, loosely-built "cat hammed" species are undesirable, particularly when two of the same type are to be mated. They are hard feeders and generally get over weight before they mature. Sows of this type usually throw large litters; they are good mothers, and if bred to a boar of one of the thick-set, early maturing breeds, will farrow pigs of good feeding qualities, but there is danger of a want of uniformity of type in the offspring.

The type of pigs to be sought for are those whose outstanding characteristics are depth of side, good length and a well sprung rib. These are the points which indicate strength of constitution; and constitution and the preservation of constitution should be given first consideration when selecting and caring for breeding animals, because a lack of constitution in the parents is followed by irregularity of type, small feeding capacity and susceptibility to disease in the offspring. Quality and smoothness, strength of bone and pastern are also important, but should not be secured at the expense of constitution.

Environment has to do with housing and with what is known in the west as range. The essentials of an environment suitable for breeding animals are such as will afford them an abundance of sunlight, fresh air and exercise during the day, and warmth and freedom from dampness at night. After four years of travel throughout the province, the writer does not hesitate to say that two-thirds of the piggeries in Alberta are defective in one or more of these respects. He is also convinced that 50% of the pigs farrowed in Alberta between January 1st and April 30th, 1913, died before they were four weeks old, and that 75% of this loss was attributable to faulty environment and improper feeding and management. During the summer months the housing problem is an easy one; that of providing range is more difficult because it involves fencing and for this reason too many swine growers fail to provide sufficient range to derive the greatest possible benefit from it.

There are no rules for determining the acreage necessary to pasture a given number of hogs. Rainfall, the nature of the soil, tillage, amount of grain fed, are all factors that enter into the problem. In most parts of the province, one-half acre of well cultivated land sown to a suitable forage crop will be sufficient to pasture one brood sow and her progeny of seven pigs. The amount of grain that should be fed in addition to the forage thus supplied will vary 3 to 10 lbs. per day according to the size of the sow and number and age of pigs following her.

The plants that may be safely relied on as forage in all parts of the province are winter rye for late fall and early spring pasture, and a mixture of winter wheat, oats and barley for summer use. The rye should be sown about August 1st in well prepared land. The mixed grains should be sown about April 15th in the south part of the province, and about May 1st in the country farther north. An easy way to provide a liberal supply of winter forage for all kinds of live stock, is to sow winter rye in a crop of barley. The ground should be plowed to a depth of at least five inches. It should be harrowed at least three times or harrowed once and then rolled. The barley should be sown to a depth of about two and one-half inches. When the young crop has attained a height of about three inches, it should be harrowed lengthwise and winter rye should then be drilled crosswise amongst it at a depth of about one inch.

If the soil has been well packed as suggested above, the depth of the various drillings can be easily regulated and the crop be benefited by the extra cultivation given to the ground by harrowing and cross-drilling. If the soil has not been well packed then there is danger of injuring the main crop by having the harrows and the drill penetrate the ground below the barley roots and breaking their hold on the soil. The winter rye will be held in check by the early crop, but, immediately after this has been harvested, it will make rapid growth until the weather turns cold. It can be pastured until June 1st, and then plowed under or left to mature a crop of grain.

In those districts where alfalfa is grown, this plant may be relied on as the main forage crop for summer use. Dwarf Essex rape is much prized by many swine growers. In order to be relished by swine it must be crisp and brittle with sap. If it becomes dry and stringy it is useless. In districts where the annual rainfall is about 20 inches and the soil somewhat sandy this brittle condition can be maintained even though the crop be pastured. But if the rainfall is light or the soil inclined to bake after being saturated with water, better results will be obtained by growing the rape in a plot of ground adjoining the swine pens, cultivating it carefully and feeding it as required.

Growers of white pigs will need to be very careful in the matter of handling rape. The dew that gathers on the leaf of the rape plant has a tendency to develope sores on the skin of any animal upon which it falls. As white hogs have thinner and more tender skins than dark ones they are the first to suffer from this cause, and they make little or no growth while suffering from the irritation incident to the ailment. Animals that are suffering from such sores may be relieved by the application of creolin, or lubricating oil.

For suggestions regarding winter housing of swine, the reader is respectfully referred to Live Stock Circulars No. 1 and 3.

Management of the Boar. Under the heading of management of breeding animals special mention must be made of the boar.

What has been previously stated about the necessity of making the development of vigor the prime object in feeding and caring for swine intended for breeding purposes, applies with special force to the boar. An abundance of exercise out of doors during the day and a warm and dry nest at night are absolutely essential to success. There are many ways by which these things may be supplied; the writer knows of no easier or cheaper way than that of giving him the freedom of a paddock of one-quarter acre of succulent pasturage, into which from one to two quarts of whole oats are thrown daily, and providing him with a nesting place similar to that shown in figure 3 of Live Stock Circular No. 3.

Throwing oats broadcast does not mean putting them in small piles, nor letting them run out over the edge of a pail, thus forming a line of feed on the ground along which the boar can satisfy his hunger in a short time. It means throwing them out by hand as if sowing for a crop and in such a way that they must be gathered a grain at a time. This will insure much time spent in hunting and in thorough mastication of the grain. A warm slop in addition to the above will be beneficial during the breeding season.

When sows are being bred, they should be turned into the paddock as they come in season. They should not be permitted to remain longer than one-half hour, and not more than two sows should be turned in on any one day, and this should occur only after a day when none have been turned in.

There is a practice in Alberta, which, because of its prevalence and the losses resulting from it, deserves to have special attention directed to. It is the practice of keeping the boar in a small dark sty when not in service, and then turning him out with a bunch of sows when the breeding season opens. It is hard to conceive of a more irrational system than this, because the natural result of it, being the impairment rather than the promotion of vigor, is the direct opposite of what is required.

Management of Sows. Much of what has been said concerning the management of the boar applies equally to the management of sows. The importance of supplying succulent feed combined with a bone building grain ration, which is obtainable only after considerable effort, should never be lost sight of, because the exercise that a sow is forced to take, and the vigor that she develops while hunting food, tend to impart alertness and activity to her offspring. It is a good plan to supply a thin warm slop during cold weather in addition to a grain ration of whole oats given in the same manner as recommended for the boar. It will induce her to leave her nest, and her appetite being sharpened but not satisfied by the slop, she will begin to hunt for the grain that has been thrown broadcast on the ground. Sows that are about to farrow should be separated from the main herd. Each should become accustomed to her own pen before she farrows in order that she may be content to remain there.

For suggestions regarding farrowing pens the reader is referred to Circular No. 3.

2.—FREQUENCY OF BREEDING.

The question of how many litters to raise per year is a perennial one and apparently no nearer settlement than it was half a century ago. All systems have their advantages and disadvantages. Climatic conditions, equipment and the amount of care the swine grower is prepared to give to his animals, will determine the system he should adopt.

One litter per year with mature Sows. This system permits of conducting the business with but little expenditure for housing. Where it is adopted, the sows should not farrow until late in the spring or early in summer. The weather is then warm and there need be but little outlay for shelter. There is at that time an abundance of succulent feed and if the sows are allowed the run of a pasture lot, they will keep themselves in health, their milk will be cool and wholesome, and the death rate among the young pigs will be small. The pigs may be permitted to follow the sow for an indefinite period, and they will get a better start than they would if weaned at six or eight weeks of age. After the pigs are weaned, the sows can be given the run of a pasture lot and kept at small expense until bred again.

Aside from the advantage of being able to keep a large number of sows with an inexpensive equipment there are many advantages

to be derived from this system. The vitality and breeding power of the animals can be maintained until they are six or seven years old, and if they are not permitted to get too fat, they will throw stronger and larger litters than they would if bred twice a year. One disadvantage of this system is that the sows come in season so frequently between the time of weaning the pigs and the time for breeding for the next litters, that they sometimes fail to get in pig when served.

One litter per year, using young Sows. Some farmers follow the practice of having their sows farrow when one year old. They permit the pigs to follow their dams until ten or twelve weeks old and then fattten the sows for market. The desired number of sows is then selected from among the young pigs for breeding the next year's crop.

This is a very easy and sometimes a very profitable way of growing pork. But it is carried on at a great loss of vitality and breeding power. It is invariably followed, in a few generations, first by uneven, then small litters and afterwards by susceptibility to disease. Some swine growers have endeavoured to overcome this tendency, by using aged sires, but they were then confronted by the fact that there was an increase in the number of sows that had difficulty in farrowing.

The system of breeding immature sows only can be followed for six or eight years without serious deterioration provided care is exercised in selecting them out of large even litters, and keeping a few aged sows for supplying any deficiency in the number of suitable breeding animals that may occur as a result of the severe system of culling that must be practiced in order to maintain the vitality of the herd. In this system a boar of from twelve to eighteen months old should be used.

Two litters per year. The percentage of swine growers in Alberta who make a success of raising two litters of pigs from each sow per year is small The difficulty lies in the fact that our summers are somewhat short. The spring litters must therefore come at a time when there is danger of cold weather. When this occurs, unless the housing, care and management are good, the death rate will be high.

Then again the pigs from the autumn farrowings are still small when winter arrives, and it requires good housing and a skilful feeder to secure a growth from small pigs during cold weather that is commensurate with the amount of feed consumed and labour involved. For these reasons many swine growers contend that one full litter cheaply grown is much to be preferred over two fractional litters grown at a greater cost in feed and labour. Raising two litter per year from each sow draws heavily on her vitality. It shortens her period of usefulness, and is one cause of uneven litters.

Three litters every two years. Swine growers that are able to protect their pigs from cold, and who have the time to give them the extra care that they require during the winter months, will find the practice of having the sows to farrow every eight months a profitable one. By this system each sow farrows three litters every two years. There is sufficient time between farrowing to

permit the pigs to follow the dam until they are ten weeks or three months old, and they are then less likely to have their growth arrested when weaned. The sow will have from four to six weeks in which to recuperate before she is bred again and her vitality will be conserved thereby, and there will not be so long an interval between the time the pigs are weaned and the time the sow is bred again, as to make her an uncertain breeder.

In order to get the best results from this system, the breeding of the sows should be so timed that a fixed number will farrow every four months. Thus a swine grower with twelve sows can divide them into two groups of six each, one group farrowing every four months, and in the course of each year eighteen sows will have farrowed. As only six sows would farrow at one time, a piggery containing but six farrowing pens need be provided; these would always be in use and would justify a considerable expenditure in their construction. They would need to be large enough to provide sufficient opportunity for exercise during the winter months. Such a piggery would have to be so built as to afford protection against cold and to be sufficiently well ventilated to carry off the moisture that accumulates during cold weather where animals are kept. If the style of housing permits, a feed cooker could be profitably installed for preparing feed at all times and supplying artificial heat during extremely cold weather. Under this system of management three sets or styles of buildings are necessary. The first is the housing for the sows from the time the pigs are weaned till the sows are due to farrow again. This may be a very cheap and rough affair. Housing such as is suggested in Figures 1, 3, 4 or 7, Circular No. 3, and the run of a stubble or pasture field will suffice. The second is the farrowing pens. These will need to be a much higher order of building. Where there are only one or two sows to farrow at a time, a style of housing such as is shown in Figure 3 in Live Stock Circular No. 3 will answer all purposes. Where a large number of sows are kept and there is no artificial heat, a house of the baled staw type or one as suggested by Figure 7 of Circular No. 3 will be found useful. Where artificial heat is supplied, the straw piggery cannot be used. A house such as is shown in Figure 8, 18 or 21 of Circular No. 3 should be provided. The pigs may have the use of this structure until they are from three to three and one-half months old. If they have been properly cared for, they will, by this time, have attained sufficient size and hardiness to permit of being grouped together.

Housing such as is suggested in Figure 5 of Live Stock Circular No. 3, together with the freedom of a pasture lot, are all that is necessary from May 1st until November 1st of each year. For winter use, warmer sleeping quarters must be provided, and this may be done in the manner suggested in Figure 7 of Circular No. 3. This house should be equipped with a sufficient number of troughs to allow all the pigs to feed at one time without crowding, until they weigh about 120 lbs., after which they may be put on a full feed of dry ground grain at a self-feeder.

A point in favour of the system of growing three litters from each sow every two years is that all houses would be occupied all the time and that each one would be especially suited to the con-

dition of the animals that occupy it. Swine growers who have the means necessary to provide piggeries such as are suggested by Figures 18 and 21 of Circular No. 5 will find them suited to the requirements of pigs of all ages, but such expensive housing is not indispensable to the man of moderate means who wishes to engage in the business of swine growing on a large scale.

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